



The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Currently Amended) The A centrifugal fan as recited in Claim 2, wherein that takes in gas from a rotational axis direction and blows the gas out in a direction that intersects the rotational axis, comprising:

an impeller that rotates about the rotational axis; and
a bell mouth having an inlet arranged so that it opposes said impeller, and a recessed part that forms a recessed negative pressure space around said inlet facing the impeller side, and that guides the inlet gas to said impeller, said bell mouth further having a flat part that extends on the outer circumferential side of said recessed part in the radial direction in a direction that intersects the rotational axis, and a curved part that extends on the inner circumferential side in the radial direction of said recessed part toward the impeller side, and that forms said inlet,

the portion of said recessed part that is most recessed on the impeller side being positioned on the impeller side of a connecting portion between said flat part and said recessed part, and being positioned on the impeller side of a connecting portion between said curved part and said recessed part,

the ratio of a length from the center of the rotational axis to the connecting portion between said flat part and said recessed part with respect defining a first length with a length

ratio of the first length to an outer radius of said impeller, i.e., a length ratio, is being greater than or equal to 0.8 and less than 1.4.

4. (Currently Amended) ~~The A centrifugal fan as recited in Claim 2, wherein that takes in gas from a rotational axis direction and blows the gas out in a direction that intersects the rotational axis, comprising:~~

an impeller that rotates about the rotational axis; and
a bell mouth having an inlet arranged so that it opposes said impeller, and a recessed part that forms a recessed negative pressure space around said inlet facing the impeller side, and that guides the inlet gas to said impeller, said bell mouth further having a flat part that extends on the outer circumferential side of said recessed part in the radial direction in a direction that intersects the rotational axis, and a curved part that extends on the inner circumferential side in the radial direction of said recessed part toward the impeller side, and that forms said inlet,

the portion of said recessed part that is most recessed on the impeller side being positioned on the impeller side of a connecting portion between said flat part and said recessed part, and being positioned on the impeller side of a connecting portion between said curved part and said recessed part,

an angle formed in the connecting portion between said flat part and said recessed part by a plane formed on the side opposite the impeller by virtually extending said flat part to the inner circumferential side and the surface extending from the portion of said recessed part that is most recessed on the impeller side to the connecting portion between said flat part and said recessed part is being greater than 60° and less than 90°.

5. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 4, wherein

the plane formed on the side opposite the impeller by virtually linking the connecting portion between said flat part and said recessed part with the connecting portion between said curved part and said recessed part is substantially orthogonal to the rotational axis.

6. (Currently Amended) The centrifugal fan as recited in ~~Claim 2~~ claim 3, wherein

said bell mouth further has a plurality of protruding parts arranged in the connecting portion between said curved part and said recessed part and aligned spaced apart in the circumferential direction of said inlet, and that protrude outward on the impeller side of the connecting portion between said curved part and said recessed part.

7. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 6, wherein a portion of said protruding parts that protrude most on the side opposite the impeller is positioned more on the side opposite the impeller than a connecting portion between said flat part and said recessed part.

8. (Currently Amended) The centrifugal fan as recited in ~~Claim 1~~ claim 3, wherein

said recessed part is annularly formed to surround said inlet.

9. (Currently Amended) The centrifugal fan as recited in ~~Claim 1~~ claim 3, wherein

said impeller has a main plate that rotates about the rotational axis, a plurality of blades annularly arranged about the rotational axis and whose end parts on the side opposite

the inlet are each fixed to said main plate, and an annular side plate that connects with the end parts on the inlet side of said plurality of blades; and

the surface of said recessed part on the impeller side has a shape that follows along said side plate.

10. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 9, wherein the end part of said curved part on the impeller side is arranged on the inner circumferential side in the radial direction of the end part of said side plate on the inlet side, and is arranged so that it overlaps in the rotational axis direction the end part of said side plate on the inlet side.

11 (Currently Amended) The centrifugal fan as recited in ~~Claim~~ 1 claim 3, further comprising

a scroll shaped housing having an opening formed so that it opposes said impeller, and a gas outlet formed on the outer circumferential side, and that houses said impeller; said bell mouth being arranged so that said inlet opposes said opening of said housing.

12. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 9, further comprising

a scroll shaped housing having an opening formed so that it opposes said impeller, and a gas outlet formed on the outer circumferential side, and that houses said impeller; said bell mouth being arranged so that said inlet (112a, 312a) opposes said opening of said housing; and

interblade parts (134, 334) positioned between each of said plurality of blades of said main plate are cut out at least at the blade front part in the rotational direction of the blade.

13. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 3, wherein an angle formed in the connecting portion between said flat part and said recessed part by a plane formed on the side opposite the impeller by virtually extending said flat part to the inner circumferential side and the surface extending from the portion of said recessed part that is most recessed on the impeller side to the connecting portion between said flat part and said recessed part is greater than 60° and less than 90°.

14. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ 2 claim 4, wherein

 said impeller has a main plate that rotates about the rotational axis, a plurality of blades annularly arranged about the rotational axis and whose end parts on the side opposite the inlet are each fixed to said main plate, and an annular side plate that connects with the end parts on the inlet side of said plurality of blades; and

 the surface of said recessed part on the impeller side has a shape that follows along said side plate.

15. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ 3 claim 6, wherein

 said impeller has a main plate that rotates about the rotational axis, a plurality of blades annularly arranged about the rotational axis and whose end parts on the side opposite the inlet are each fixed to said main plate, and an annular side plate that connects with the end parts on the inlet side of said plurality of blades; and

 the surface of said recessed part on the impeller side has a shape that follows along said side plate.

16. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 8, wherein

said impeller has a main plate that rotates about the rotational axis, a plurality of blades annularly arranged about the rotational axis and whose end parts on the side opposite the inlet are each fixed to said main plate, and an annular side plate that connects with the end parts on the inlet side of said plurality of blades; and

the surface of said recessed part on the impeller side has a shape that follows along said side plate.

17. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ 2 claim 4, further comprising

a scroll shaped housing having an opening formed so that it opposes said impeller and a gas outlet formed on the outer circumferential side, and that houses said impeller;

said bell mouth being arranged so that said inlet opposes said opening of said housing.

18. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ 3 claim 6, further comprising

a scroll shaped housing having an opening formed so that it opposes said impeller and a gas outlet formed on the outer circumferential side, and that houses said impeller;

said bell mouth being arranged so that said inlet opposes said opening of said housing.

19. (Currently Amended) The centrifugal fan as recited in ~~Claim~~ claim 8, further comprising

.. a scroll shaped housing having an opening formed so that it opposes said impeller and a gas outlet formed on the outer circumferential side, and that houses said impeller; said bell mouth being arranged so that said inlet opposes said opening of said housing.

20. (New) The centrifugal fan as recited in claim 4, wherein
said bell mouth further has a plurality of protruding parts arranged in the connecting
portion between said curved part and said recessed part and aligned spaced apart in the
circumferential direction of said inlet, and that protrude outward on the impeller side of the
connecting portion between said curved part and said recessed part.

21. (New) The centrifugal fan as recited in claim 3, wherein
the plane formed on the side opposite the impeller by virtually linking the connecting
portion between said flat part and said recessed part with the connecting portion between said
curved part and said recessed part is substantially orthogonal to the rotational axis.

22. (New) The centrifugal fan as recited in claim 20, wherein
a portion of said protruding parts that protrude most on the side opposite the impeller
is positioned more on the side opposite the impeller than a connecting portion between said
flat part and said recessed part.

23. (New) The centrifugal fan as recited in claim 4, wherein
said recessed part is annularly formed to surround said inlet.

24. (New) The centrifugal fan as recited in claim 4, wherein

the end part of said curved part on the impeller side is arranged on the inner circumferential side in the radial direction of the end part of said side plate on the inlet side, and is arranged so that it overlaps in the rotational axis direction the end part of said side plate on the inlet side.

25. (New) The centrifugal fan as recited in claim 24, further comprising a scroll shaped housing having an opening formed so that it opposes said impeller, and a gas outlet formed on the outer circumferential side, and that houses said impeller; said bell mouth being arranged so that said inlet opposes said opening of said housing; and

interblade parts positioned between each of said plurality of blades of said main plate are cut out at least at the blade front part in the rotational direction of the blade.